Jiva KS-6615 /
KS-6617 SERIES

TECHNICAL MANUAL

Rev. : Original

MANUFACTURED BY: ***POSIFLEX TECHNOLOGIES, INC.***

AN **ISO-9001** AND **ISO-14001** CERTIFIED MANUFACTURER

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SOME IMPORTANT NOTES

FCC NOTES

This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions manual, may cause interference to radio communications. It has been tested and found to comply with limits for a Class A digital device pursuant to subpart J of Part 15 of FCC Rules, which are designed to provide reasonable protection against interference when operated in a commercial environment. Operation of this equipment in a residential area is likely to cause interference in which case the user at his own expense will be required to take whatever measures to correct the interference.

WARRANTY LIMITS

Warranty will terminate automatically when the machine is opened by any person other than the authorized technicians. The user should consult his/her dealer for the problem happened. Warranty voids if the user does not follow the instructions in application of this merchandise. The manufacturer is by no means responsible for any damage or hazard caused by improper application.

ABOUT THIS MANUAL

This manual assists the user especially the software programmer who provides the software system for POS application to utilize the hardware of the Jiva KS series which is a member of the POSIFLEX integrated point-of-sale terminal product family. The Jiva KS is a compact point-of-sale system that gives the most user friendly application interface by providing a touch control LCD panel and combines the performance and affordability of personal computers with the elegance and reliability of business machine. The Jiva KS series also provides the built-in networking capability for easy communication among multiple terminals in addition to the data transfer and control through back office server.

The manufacturer of the Jiva KS series heartily apologizes to the user for reserving the right to change or to modify this manual without notice due to the rapid and constant progress and improvement on science and technology. The user may always obtain the most up to date information or software utilities through any of our web sites:

http://www.posiflex.com.tw; http://www.posiflex.com; http://www.posiflexusa.com

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OVERVIEW

SCOPE

The Jiva KS-6615 / KS-6617 series is a series of fully integrated PC based Point-Of-Sale terminals. This series provides excellent performance for Point-Of-Sale, Hospitality and Kiosk systems with a Celeron CPU of Mobile 1.5 GHz in 479-ball Micro-FCBGA package with Intel 910GMLE + ICH6M chipset inside an Aluminum alloy enclosure without any exhaust fan. This series also provides a touch control panel over the 15" or 17" LCD panel integrated on the top surface of the system. In short, this series engages modular design for numerous advanced hi-tech applications in robust integrated construction.

FEATURES

- CPU: Celeron M 1.5 GHz
- Data storage device: SATA HDD 2.5" 40 GB in base or SATA HDD 2.5" 40 GB in main unit or CF card.
- Fan free structure with vertical fin Aluminum main unit casing against hostile environment
- An advanced slim base or wall mount without base design. The slim base supports 2nd LCD display or pole mount customer display, storage room for 2.5" HDD and optional UPS battery. The wall mount utilizes the CF card or 2.5"HDD in main unit for data storage device.
- Support WinXP Pro, WEPOS, Windows Vista and Linux environment
- High quality 15" TFT active matrix LCD panel with 1024 x 768 resolution (XGA) for KS-6615; 17" TFT active matrix LCD panel with 1280 x 1024 resolution (SXGA) for KS-6617
- **Vertical type LCD panel with easy tilt** angle adjustment from 15° to 70°
- Extra long life touch panel that endures 35 million touches at same spot or optional InfraRed type touch sensor giving maximum clarity
- Easy maintenance, spill proof and multipurpose construction
- Various I/O ports supported, including:

a. 4 serial ports with DB9 connectors, each with capability for +5V DC power support
b. 1 parallel port
c. 6 USB ports (4 in I/O area and 2 in side cover for instant service use)
d. 1 proprietary USB port for side mount kit such as SD-400T
e. 1 LAN port 100 Base-TX / 1000 base-T Ethernet
f. 1 external VGA monitor port
g. 1 CR port for control over max. 2 cash drawers
h. 1 Mic. in 1 line out
i. 1 SATA port and 1 HDD power connector
j. 1 internal SATA port for optional HDD in main unit
k. 1 UPS battery connector (for optional UPS battery in base)
l. 1 DC 12 V 4 pin lock type power input connector

- **Preprogrammed timer wake up function**
- **COM port MODEM ring up function**
- **LAN wake up function**
- **Built-in UPS function with battery low detect and alarm** to support the system from intermittent power failure (battery itself is an option)
- **Accidental power off protection** – The power switch is safely located in left side cover, and this power switch can be defined as a "ON" switch only through software command
- **Software power off** makes full featured remote control through LAN or MODEM possible
- **Touch control functions**: left/right button, double click, drag & drop
- **Touch sound** can be enabled or disabled or adjust pitch by software control
- High resolution touch sensor controller: 1024 X 1024
- **DDR2 SODIMM memory can extend to 1GB in 1 module**
- Dynamic video memory technology up to **128 MB**
- Integrated structure for various optional upgrade kits
- Supports power saving by suspension mode
- LCD panel brightness control by hardware push button "**+**" & "**-**"

OPTIONAL ITEMS

Note: The "*" marked items in the following list means that option must be set prior to shipment from the factory. The rest items can be set by the dealers.

a) *Optional model to be without touch panel or with IR touch panel
b) 2nd HDD or CF memory card reader
c) DDR2 SODIMM memory expansion up to 1 GB max.
d) Internal UPS battery
e) SD-400T integrated to right side of LCD panel to contain MSR with software controllable parameters and optional optical fingerprint sensor.
f) Pole mount 2 by 20 VFD or LCD customer display through COM port or USB port or base mount 2nd LCD monitor
g) Preload WinXP Pro or WEPOS
h) Wall mount bracket WB-6000V, WB-6300, WB-6600, WB-6800 etc.

GENERAL SPECIFICATION

SYSTEM

- CPU: Intel Celeron M 1.5 GHz (1 MB L2 cache)
- DDR2 SODIMM : 512 MB (expandable to 1GB)
- Built-in 2.5” SATA interface HDD 40 GB above in base

POWER SOURCE

Item	Specification
Voltage range of adaptor input	100 ~ 240 V AC
Load limit of adaptor input	2.5 A max.
Input frequency	47 / 63 Hz
Voltage output	12 V DC
Output current	6.6 A

Total Power Consumption	Nominal	Maximum
	60 W	80 W

SYSTEM POWER ON/OFF CONTROL

- One main power ON/OFF slide switch inside the touch open cover, this switch can be programmed as “ON” only
- System can be waked up after each power off by any of the preset timer or a remote COM port MODEM call or LAN wakeup packet
- System can be switched off by software command through local or remote program control
- Forced power off when switch is ON/OFF or when switch is ON only with prolonged effort
- Power OFF to ON duration: 10 seconds min.

UPS SUPPORT (battery option)

- Supports system operation for up to 30 min. depending on loading condition
- LED panel turns on green when adaptor power stand-by
- LED panel flashes in blue and system beeps when UPS battery starts working and discharging, and LED panel flashes rapidly when UPS near to end
- Working on UPS battery status can be detected through COM1 status port

12VDC POWER SUPPLY INTO SYSTEM

- O / P : 12 +/- 1 V DC 6.6 Amp.
- I / P : 110 VAC/2.5A or 240 VAC/1.2A max., 47 ~ 63 Hz

OVERALL POWER OUTPUT LIMIT

- All COM ports: + 5 V DC / 1 Amp max. total
- All USB ports: + 5 V DC / 0.5 Amp. max. for each port
- VGA port: + 12 V DC / 1 Amp. max.
- HDD power: + 5 V DC / 2 Amp. max., + 12 V DC / 1 Amp. max.

INPUT / OUTPUT PORTS

- 4 x serial communication ports. All serial communication ports can supply DC +5V through pin 9 under overall power output limit. Default setting is standard RI signal input at this pin for all ports.
- 1 x parallel port
- 6 x USB ports
- 1 x proprietary USB port for side mount upgrade kit
- 1 x LAN port (Ethernet 10 base T and 100 base T and 1 Gbps)
- 1 x VGA display port for external monitor display
- 1 x CR port in RJ11 jack for control over max. 2 cash drawers
- 1 x 3.5F mono jack for Mic. in and 1 x 3.5F stereo jack for line output
- 1 x SATA port for HDD in base
- 1 x HDD power connector

- 1 x 4 pin 12 V DC power input jack
- 1 x UPS connector for 2.3AH/12V or above Lead Acid battery
- 1 x internal SATA port for optional HDD in main unit

HDD IN BASE

- 40 GB or above operating up to SATA 1 (150 MB/s)

TOUCH PANEL

- Extremely endurable life survives minimum 35,000,000 touches at same spot
- Touch control interface: USB (optional RS232 interface for IR type)
- Sensor type: resistive (InfraRed type optional)
- Resolution: 1024 x 1024
- Calibration: initial calibration at setup only, no re-calibration required for day to day power on/off
- Driver support: Win 2000, Win XP

PRELOAD OS

- Option between Win XP Pro and WEPOS

OPERATOR DISPLAY

MODEL	KS-6615	KS-6617
Display Type	COLOR TFT 15" LCD	COLOR TFT 17" LCD
View area	304.1 X 228.1 mm	337.9 X 270.3 mm
Internal Interface	LVDS	Dual channel LVDS through SVDO adaptor
Luminance	200 cd/m^2 min	200 cd/m^2 min
Resolution	1024 X 768	1280 X 1024
Video memory size	up to 128 MB dynamic memory	
Tilt angle	15° ~ 70°	

AUDIO PORT

- 3.5 Ø mono jack for Mic. In
- 3.5 Ø stereo jack for audio line out
- Output audio power 2.0 W x 2 (in stereo signal to internal speakers in back cover)
- Bandwidth 350 Hz ~ 12 KHz

LED MODULE COLOR

- Type: blue/green dual color (blue for power on; green for stand by)
- Indication coverage: system ON/OFF status, external power status, UPS battery monitoring

EXTERIOR

- **15" GEN. 5 SLIM BASE MODEL DIMENSIONS:**

  LCD @ 15°: 378 mm (W) x 321 mm (D) x 362 mm (H) or 14.9" x 12.6" x 14.3"

  LCD @ 70°: 378 mm (W) x 304 mm (D) x 294 mm (H) or 14.9" x 12.0" x 11.6"

- **17" GEN. 5 SLIM BASE MODEL DIMENSIONS:**

  LCD @ 15°: 426 mm (W) x 326 mm (D) x 418 mm (H) or 16.8" x 12.8" x 16.5"

  LCD @ 70°: 426 mm (W) x 354 mm (D) x 319 mm (H) or 16.8" x 13.9" x 12.6"

- **MAIN UNIT DIMENSIONS (for WALL MOUNT MODEL):**

  15": 378 mm (W) x 85.1 mm (D) x 312 mm (H) or 14.9" x 3.35" x 12.3"

  17": 426 mm (W) x 89.8 mm (D) x 370 mm (H) or 16.8" x 3.54" x 14.6"

- **WEIGHT:**

NET WEIGHT	15"	17"
w/ Gen.5 Slim base	9.7 kg (21.4 lbs)	t. b. d.

ENVIRONMENTAL

- **TEMPERATURE RANGE (excl. UPS battery):**
  Operating: 0°C ~ +40°C or 32°F ~ 104°F
  Non-operating: -20°C ~ +60°C or -4°F ~ +140°F
- **TEMPERATURE RANGE for UPS battery:**
  Operating: 0°C ~ +40°C or 32°F ~ 104°F
  Non-operating: -20°C ~ +40°C or -4°F ~ +104°F
- **HUMIDITY RANGE:**
  Operating: 20%RH ~ 80%RH, non-condensing,
  max. wet bulb 26°C (78.8°F)
  Non-operating: 10%RH ~ 80%RH, non-condensing,
  max. wet bulb 28.9°C (84.0°F)

ACCESSORIES

- User's manual: 1 copy
- Power adapter 12 V DC 6.6 A plus power cord
- Product Information CD or Recovery CD of preloaded OS
- COM1 terminator

COMPLIANCE APPROVALS

- Whole system meet CE, FCC class A standard
  (meet IEC1000-4-2/-3/-4/-5/-6/-8/-11)
- Power supply is UL, VDE approved
- RoHS
- WEEE

OPTIONS

SECOND DISPLAY ON REAR BASE

Model Number	LM6101	LM6201
Display Type	COLOR TFT 12.1”	
Interface	VGA	
View area	245.8 X 184.3 mm	246 X 184.5 mm
Luminance	175 cd/m^2	400 cd/m^2
Backlight	CCFL x 1	CCFL x 2
Contrast Ratio	500 : 1	500 : 1
Resolution	1024 X 768 (XGA)	800 X 600 (SVGA)
Color depth	18 bits true color (262,144)	
Tilt angle	Stand straight (as 0°) to backward till touching main unit	
Swivel angle	Left 45° and right 45°	
Power Source	DC 12 V in VGA	

CUSTOMER DISPLAY UPGRADE KIT

MODEL Number	PD2501	PD2602	PD305	PD306 /U
Display Media	VFD		LCD	
Number of rows	2			
Characters per row	20			
Character width (mm)	7.2	5.25	6	
Character height (mm)	11.25	9.03	9.66	
Character format	5 X 7			
Character code pages	14		1	
International character sets	12		1	
Command modes	6		2	
Display color	Green (505 nm) w/ Blue filter		Dark blue / Yellow green Background	

Display area (mm x mm)	193 x 39	157.05 x 22.86	142.8 x 20.64	
Display head size (mm)	260 x 65 x 83	197 x 56 x 58	217 x 80.5 x 28.5	196.7 x 57.5 x 39.6
Mounting method	Pole mount on base		Base mount	Pole on base
Pole height (mm)	430	200	N. A.	200
Horizontal slide (mm)	N. A.			
Horizontal rotation	330º	270º	+/- 45º	270º
Inclined viewing angle	15º, 30º, 45º	15º, 30º, 45º	0º ~ 90º	15º, 30º, 45º
Signal interface	RS232	RS232 or USB	RS232	RS232 or USB
Power source (5 V DC)	in DB9	in DB9 or USB	in DB9	in DB9 or USB

DRAM EXPANSION

- DDR2 SODIMM in 1 socket up to total 1 GB max.

UPGRADE KIT SD400T

- Functions include: MSR, optical type finger print sensor
- MSR:

Reader type: ISO 2 tracks (track 1 + track 2) or ISO 3 tracks (track 1 + track 2 + track 3) or JIS I/II

Characteristic parameters of ISO readers can be set via software

AAMVA/CA DMV format supported in ISO 3 tracks model

- Optical fingerprint sensor:

Detection area : 14.6 x 18.1 mm (nominal at center)

Gray scale : 8 bits (256 levels)

Resolution : 512 dpi (average x, y over the field)

UPS BATTERY

- 2.3 AH/12V lead acid battery

CF CARD CONNECTOR

- Accepts Compact Flash Memory Card type II
- Occupies IDE primary channel

CASH DRAWER CONTROL CABLE

- 2 in 1 cash drawer control cable 20863023800 for independent control over two cash drawers of CR3100 or CR3200 or CR4000

2.5” HDD IN MAIN UNIT

- 40 GB or above
- SATA 1 (150 MB/s)

EXTERNAL CD ROM DRIVE

- 24 x speed
- USB interface
- Slim type

PRINTER:

- **PP-2000**
  1. 2-station receipt/journal/validation printer
  2. Dot matrix 9 pin
  3. Bi-directional printing
  4. Auto cutter provides full cut and partial cut
  5. Auto-detect between RS232 and EPP interface
- **PP-5600**
  1. Dot matrix impact 9 pin
  2. Bi-directional printing
  3. Friction feed type
  4. 40 columns for 16.9 CPI
  5. Accepts paper width 76 mm
  6. Prints on ordinary or up to 3-fold carbonless copy paper

- **PP-5700**
  1. Dot matrix 9 pin
  2. Bi-directional printing
  3. Sprocket feed type
  4. 2 models for single pass or double pass print of Chinese characters
  5. 4.4 lines per second for single pass or 2.2 lines per second for double pass print
  6. 8 KB input buffer
  7. 28 columns (15 columns Chinese) or 35 columns (17 columns Chinese)
- **PP-7000II / PP-7000L / PP-7000U**
  1. High speed thermal line printer up to 180 mm/sec
  2. High resolution 8 dots/mm by 512 dots/line (576 dots max.)
  3. Epson TM-T88 II compatible command set
  4. Low noise high reliability
  5. Auto guillotine type cutter provides single point left partial cut
  6. Thermal sensitive paper roll at width 80 mm or 58 mm
  7. Supports UPC-A, EAN(JAN)13/8, ITF, CODE39, CODABAR printing
  8. Supports printing on label with marker on the other side
  9. UPOS 1.9 compliant
  10. Provides also Black color option
  11. PP-7000II supports serial or parallel interface; PP-7000L supports Ethernet 10 / 100 Base T; PP-7000U supports USB interface
- **PP-7700**
  1. Posiflex wireless connection
  2. Requires a dongle DG2000 connected on COM port of host to control
  3. All other features same as PP7000II

RELIABILITY SPECIFICATION

- **POWER ADAPTOR MTBF: 50,000 HRS**

- **TOUCH PANEL LIFE EXPECTANCY (TOUCHES AT SAME SPOT):**

  IR TYPE: 50,000,000 UP

  RESISTIVE TYPE: 35,000,000 UP

- **LCD PANEL LIFE EXPECTANCY: 40,000 HRS FOR TFT**

- **HDD LOAD/UNLOAD CYLES: 300,000 TIMES**

- **HDD MTBF: 50,000 HRS**

- **CD ROM DRIVE MTBF: 120,000 POH (10% duty cycle, seek and read)**

- **2ND DISPLAY LCD BACK LIGHT LIFE EXPECTANCY:**

  LM6101: 10,000 HRS

- **CUSTOMER DISPLAY LIFE EXPECTANCY:**

  PD305 / PD-306 / PD-306U: 100,000 HRS

  PD2501 / PD-2602/ PD-2602U: 30,000 HRS

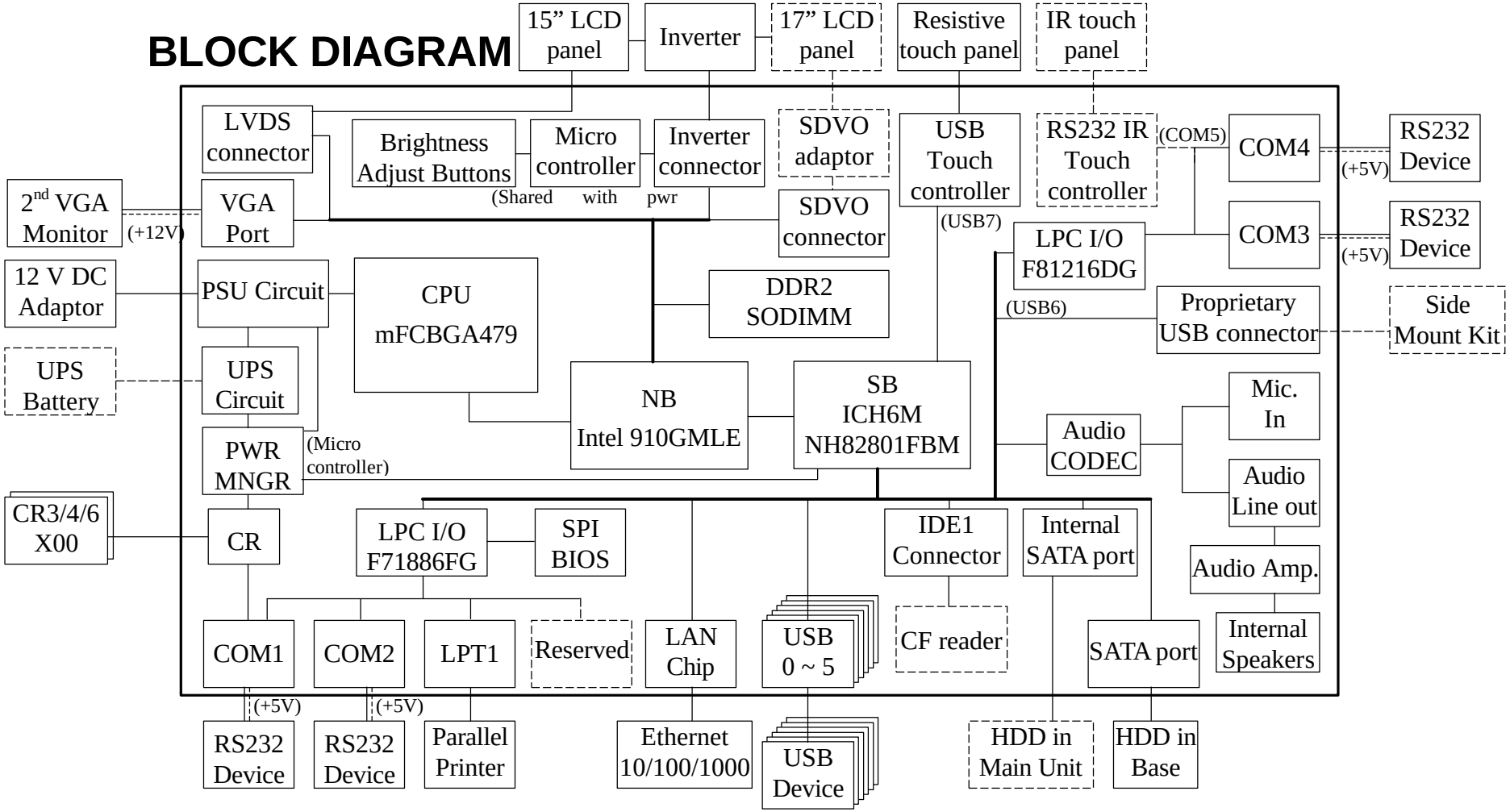
  PD-7621: 50,000 HRS

- **MSR LIFE EXPECTANCY: 500,000 PASSES**

- **MOTHER BOARD MTBF: 50,000 HOURS**

SYSTEM DEFINITIONS

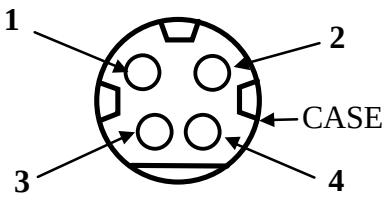
BLOCK DIAGRAM



12 V DC IN CONNECTOR

PIN ASSIGNMENT OF 4 PIN PLUG:

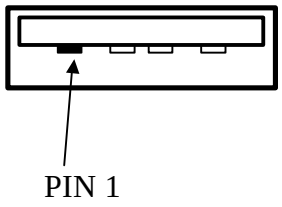
PIN #	DEFINITION
1	+12 V
2	+12 V
3	GND
4	GND
CASE	CHASSIS GND



USB0 ~ USB5

PIN ASSIGNMENT OF EACH 4 PIN JACK:

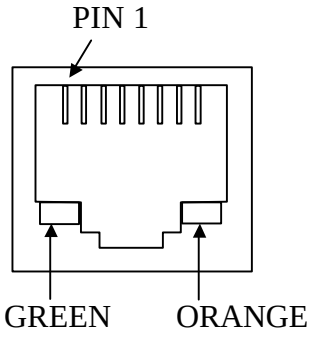
PIN #	DEFINITION
1	VCC
2	-DATA
3	+DATA
4	GND



LAN PORT

PIN ASSIGNMENT OF 8 PIN TELEPHONE JACK:

PIN #	DEFINITION
1	TD +
2	TD -
3	RD +
4	NC
5	NC
6	RD -
7	NC
8	NC

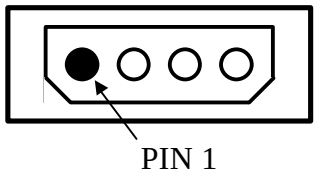


- **This port is defined as 100 base T or 10 base T LAN port or 1 Gbps.**
- **This port is utilized by the system in pnp (Plug-N-Play) way, IRQ assigned is not fixed for this port. Most usual observation is IRQ 11.**

UPS BATTERY CONNECTOR

PIN ASSIGNMENT OF 4 PIN SOCKET:

PIN #	DEFINITION
1	GND
2	GND
3	+12 V
4	+12 V

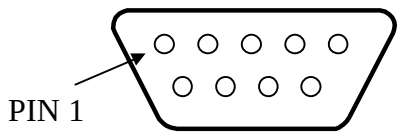


SERIAL PORT COM1

PIN ASSIGNMENT OF MALE DB9 – 10 pin RJ45 CONVERSION CABLE:

DB9 PIN #	PIN DEFINITION	ALTERNATIVE DEF.	DEFAULT SETTING
	CHASSIS		
1	DCD	BATTWK	BATTWK
2	RX		
3	TX		
4	DTR		
5	GND		
6	DSR		
7	RTS		
8	CTS		
9	RI	+5 VDC	RI

- **IRQ 4 is assigned to this port.**
- **Please refer to section "UPS DETECTION FUNCTION" in "APPLICATION GUIDE" for BATTWK signal. Please refer to "COM1 APPLICATION COMMENT" in same chapter for remarks on this port.**
- **+5 V DC supply is UPS supported.**
- **Jumper selection: please refer to the description in Hardware details of this manual.**

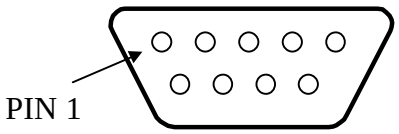


SERIAL PORT COM2/3/4

PIN ASSIGNMENT OF MALE DB9 – 10 pin RJ45 CONVERSION CABLE:

DB9 PIN #	PIN DEFINITION	ALTERNATIVE DEF.	DEFAULT SETTING
	CHASSIS		
1	DCD		
2	RX		
3	TX		
4	DTR		
5	GND		
6	DSR		
7	RTS		
8	CTS		
9	RI	+5 VDC	RI

- **IRQ 3, 10, 5 are assigned for COM2/3/4**
- **DC supply to these ports is UPS supported.**
- **Jumper selection: please refer to the description in Hardware details of this manual.**



AUDIO OUT

PIN ASSIGNMENT OF 3.5 Ø STEREO JACK:

CONTACT ON PLUG:	DEFINITION:
TIP	R
RING	L
OUTER	GND

MIC. IN

PIN ASSIGNMENT OF 3.5 Ø MONO JACK:

CONTACT ON PLUG:	DEFINITION:
TIP	IN
OUTER	GND

PARALLEL PORT LPT1

PIN ASSIGNMENT OF 25 PIN D SUB FEMALE CONNECTOR:

PIN #	SPP MODE	EPP MODE	ECP MODE
1	- STROBE	-WRITE	-STROBE
2	D0	D0	D0
3	D1	D1	D1
4	D2	D2	D2
5	D3	D3	D3
6	D4	D4	D4
7	D5	D5	D5
8	D6	D6	D6
9	D7	D7	D7
10	- ACK	INTR	-ACK
11	BUSY	-WAIT	BUSY, PeriphAck
12	PE	NU	Perror, -AckReverse
13	SLCT	NU	SLCT
14	- AUTO FEED	-Datastb	-AutoFeed, HostAck
15	- ERROR	NU	-Fault, -PeriphRequest
16	- INIT	NU	-Init, -ReverseRequest
17	- SLCT IN	NU	- SLCT IN
18	GND	GND	GND
19	GND	GND	GND
20	GND	GND	GND
21	GND	GND	GND
22	GND	GND	GND
23	GND	GND	GND
24	GND	GND	GND
25	GND	GND	GND

- **IRQ 7 is assigned for this port.**

VGA CONNECTOR

- **This port is a standard 3 x 5 D-sub VGA connector**

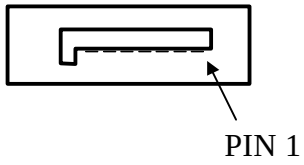
PIN #	DEFINITION	PIN #	DEFINITION	PIN #	DEFINITION
1	RED	6	GND	11	NC
2	GREEN	7	GND	12	NC
3	BLUE	8	GND	13	HSYNC
4	NC	9	NC/+12V	14	VSYNC
5	GND	10	GND	15	NC

SATA CONNECTOR

- **This connector is a single deck SATA connector**

PIN ASSIGNMENT OF EACH 7 PIN CONTACTS:

PIN #	DEFINITION
1	GND
2	+RX
3	-RX
4	GND
5	+TX
6	-TX
7	GND

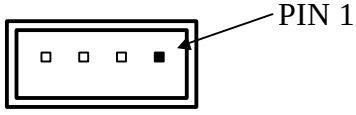


HDD POWER CONNECTOR

- **This connector is a small 4 pin connector with housing**

PIN ASSIGNMENT OF 4 PIN CONTACTS:

PIN #	DEFINITION
1	GND
2	+12 V DC
3	+ 5 VDC
4	GND



APPLICATION GUIDES

POWER SUPPLY TO COM PORTS

On the solder side of the main board, jumpers on JP7 and JP9 determine the +5V DC supplies to the devices connected to COM1/2 and COM3/4 separately. The jumper on JP3 determines +12V DC supply to VGA port. Refer to the hardware details for jumper settings. The load supplied from the Jiva KS-66 series to all USB devices on 5 V DC is limited to be within 0.5 Ampere for each port, and power on 5 V DC to all COM ports is limited to be within 1 Ampere. The +5V DC and the +12V DC in HDD power connector are limited to be within 2 Ampere and 1 Ampere respectively. The power supplied to VGA port on 12 V DC is limited to be within 1 Ampere. No matter what, the ventilation of the environment should be much improved to compensate the heat accumulation due to such excessive load.

CUSTOMER DISPLAY

The RS232 model rear base mount customer display PD2501 or PD2602 or PD305 or PD-306 or PD-7622 upgrade kit can be connected to any available COM port with an internally supplied power from the Jiva KS series set per instruction in Hardware Detail. The USB model PD-2602U or PD-306U can be connected to any available USB port with an internally supplied power from the KS-66 series. Please refer to the user's manual of customer display for detail instructions on use of PD. Please refer to below paragraph if COM1 is selected for this usage.

COM1 APPLICATION COMMENT

Before using the port COM 1, the COM1 terminator should be removed and stored for future use when there will be no regular RS232 device to be connected to this port. It is definitely inadvisable to connect serial input devices like serial mouse to COM 1 port without thorough investigation. The reason is that some input devices do not provide standard RS232 hardware handshaking signals. In KS systems, the power management controller shares the COM 1 port. When the system issues any command to power management controller, the hardware handshaking signal would be in error

status and could halt this port if COM 1 is not connected properly. Any possible cross-link to the command for power manager that is also using COM1 at 9600bps, none parity, 8 data bits, 1 stop bit should be avoided. An index summary of such commands is tabulated at end of this chapter.

CASH DRAWER

The software command to open the cash drawer or the first cash drawer with the optional 2 in 1 cash drawer control cable is a hexadecimal code of <07> sent to COM1 port under the protocol of 9600 bps, none parity, 8 data bits, 1 stop bit.

The software command to open the second cash drawer with the optional 2 in 1 cash drawer control cable is a hexadecimal code of <17> sent to COM1 port under the same protocol as above.

The drawer open status can be obtained through checking the communication status of COM1 at signal RI. When there is no drawer open, the RI signal of COM1 is always set. When there is any cash drawer opened, the RI signal of COM1 is reset. The RI signal is obtained as the bit 6 (the second most significant bit) of the I/O address 3FEh if the COM1 address is set to 3F8h~3FFh (conventional address for COM1) in system configuration.

SOFTWARE SYSTEM BACKUP

When the system integrator purchases the POS system with preloaded OS from Posiflex, he gets a bonus support of system protection function. In the OS boot process, there are few seconds of system protection function entry screen. Pressing the three key combination of “Ctrl” + “Alt” + “F12” at this entry screen will activate this system protection function. If no action taken in the period of the entry screen, then the OS boot up will go on. At this screen, there is a hidden reserved key combination for system integrator’s convenience. The system integrator may install all necessary software into the OS and preserve the status quo at this screen by pressing “Ctrl” + “Alt” + “F5” prior to shipment to end user. The system status (including OS + AP + Data) preserved in this way will be recalled when later the end user presses “F2” at the system restore screen. Please note that each time this “Ctrl” + “Alt” + “F5” combination is pressed, earlier settings will be renewed to the latest settings.

SYSTEM BIOS UPDATE

Unlike usual personal computers, the update of system BIOS for this highly professional equipment should never be carried out unless notified by the central technical department of Posiflex. Even in such circumstances, please always check the system revision of the equipment for the correct utility program to do the update as the required utility may be different for each system revision not to mention being different to so called “similar product”. Please note that improper use of the programming utility or the BIOS content file may jeopardize the functionality of the whole system.

EXTENDED DUAL DISPLAY MODE

The external monitor connector is a standard VGA type 3 x 5 pins D connector and can be connected to any market available PC monitors. However, if extended dual display mode (1st and 2nd screen showing different pictures) is required, please note that it can be supported only in VGA driver for Windows XP. Please enable the power supply to this port per Hardware Details in later chapter when LM6101/LM6201 is to be connected.

PS/2 INTERFACE DEVICE

The KS-6615/6617 series provides no connectors for either PS/2 KB or PS/2 mouse therefore no PS/2 interface device could be applied to normal models. Notice below applies to specific OEM models only. If the OEM model is not installed with any regular PS/2 keyboard nor Posiflex programmable keyboard at system boot up, the application of some PS/2 interface device such as a bar code scanner could encounter some trouble if the OS used is Win 2000. The registry modification as hot fix mentioned in web site http://support.microsoft.com/default.aspx?scid=kb;en-us;262798 does not work in this series. The only solutions are to connect a PS/2 keyboard or Posiflex programmable keyboard for the application or to use an USB interface device (e.g. bar code scanner) instead of the PS/2 interface one or to use other OS.

POWER ON/OFF CONTROL

EXTERNAL POWER SWITCH

Whenever the Jiva KS series is to be powered on for the first time after connected to external AC power, this switch must be engaged to turn on the power. This switch is originally an "ON/OFF" power switch. It can be programmed into a power "ON" only switch through software command. To program this switch, the programmer needs to issue the following mentioned commands in the application program to COM1 under the protocol: 9600 bps, parity none, 8 data bits, 1 stop bit.

- **Change to power on only switch –** the command string is <1B> <19> <01> or alternatively <1B> <00> <00> <00> <00> <00> <00> <18> in hexadecimal format.
- **Change to power on/off switch --** the command string is <1B> <19> <00> or alternatively <1B> <00> <00> <00> <00> <00> <18> <00> in hexadecimal format. (default status)

In case the power switch status has been changed from the default status, the switch function will remain after power off. However, if the AC power has been disconnected during the power off stage, such change will be discarded. Therefore, it is advisable for the application program to reinstate the switch function every time the system is rebooted or every time the program is executed to ensure the proper action of the power switch. This function can also be achieved by use of the Posiflex Power Switch Terminal Manager.

SOFTWARE SWITCH OFF

An easy method for software control to turn the system off is the software off switch. The hexadecimal command string for software switch off function is : <06> <16> <19> <1D> <n>.

In the above, the "n" indicates the time delay in seconds for actual power off after the command string given to COM1. However, an alternative command string <1B> <00> <00> <00> <00> <00> <00> <00> can be used instead to turn off the system power immediately.

Some operating system or software may require complete termination of application programs before system power off for the sake of system maintenance. In

that case the programmer has to program the command to close the application programs (just like “Alt+F4” in Windows), and then at the end of the closing operation, the application program should issue the above mentioned software switch off command string to COM1 under the protocol: 9600 bps, parity none, 8 data bits, 1 stop bit.

FORCED POWER OFF

In case of serious system halt due to system resources conflict or any reason, the system could fail to power off through normal means. The Forced Power Off method is designed for such occasions. With the external power switch defined as power ON/OFF switch (default status), push down and hold this Power ON/OFF Switch. The system will be powered off within 10 seconds in this way. Whenever the machine receives a software command to change the external power switch to ON only, the forced power off function requires the user to keep the switch pressed for a longer period between 10 to 20 seconds to function.

In case the system halt situation is so serious that some hardware/firmware registrations are already confused, this above mentioned forced power off could though very unlikely still fail. When such situation happens, please remove the external power input from the adaptor and disconnect the UPS battery for few minutes to reset the hardware registers.

One example of the need for this forced power off function could happen when power switch is triggered within 10 seconds of last switching off. It is a common practice that once the system power is switched off there should be some waiting time before next switching back on. If the system power is switched off and on in very short time chances are the system LED module could indicate power on status while the system remains off. In such case, please use the forced power off function to cancel the error and wait for 10 seconds before switching on again.

UPS BATTERY

The optional UPS battery is a maintenance-free lead-acid battery and is targeted to support basically the data preservation and smooth running of the system during intermittent power failure. This battery is not designed for prolonged power support to the system against power shutdown. That means, when the AC power

outage is known to last for more than few minutes, it is advisable to turn off the system instead of using the battery up while repeatedly using it up reduces the battery life dramatically.

The battery will undergo self-discharging over time even when not in use (not connected). A useful advice to preserve the battery at best condition is to regularly recharge the battery if the battery is put in storage for a period of time. It is recommended to turn on the system to recharge the battery for 1 ~ 2 hours every 3 months of storage if the storage temperature is lower than 30°C. The battery should be recharged for 1 ~ 2 hours every month if the storage temperature exceeds 30°C. However, the user shall avoid the situation with storage temperature over 30°C to protect the life of the battery. Do not connect any other battery to this UPS battery because mixed use of batteries of different capacity, history, or manufacturers may cause damages. In case the user wants to have a longer battery support time during AC power off, he/she should consult his/her dealer for application of an external 12 V battery.

When the UPS battery is installed in the KS system with power off, the standby current will consume the battery much faster than self-discharge. An over-discharged battery will not only mean premature death of the battery itself, it also may cause danger when later being recharged. It is therefore absolutely important that the end user shall **disconnect the UPS battery from the system when the system is to be powered off for more than 72 hours and replace a new battery whenever the monitoring software indicates the battery is out of service**.

UPS STATUS DETECT FUNCTIONS

The UPS function requires use of the optional UPS battery. The Posiflex UPS functions can support the system against intermittent power failure. However, in order to achieve best hardware stability against any possible memory or CMOS data loss or even system crash, the UPS function will be automatically enabled or disabled depending on the existence of a healthy UPS battery.

In the Jiva KS series products, when the system is working on UPS battery power, the status is indicated by LED and is detectable by software. This “operating on battery” signal can be obtained through checking the communication status of COM1 at signal DCD provided this signal is not engaged elsewhere (In other words, Modem

is not recommended to be used on COM1). When the system is working on AC power, the DCD signal of COM1 is reset (value = 0). When the system is working on battery power, the DCD signal of COM1 (BATTWK signal) is set (value = 1). The DCD signal is obtained as the bit 7 (the most significant bit) of the I/O address 3FEh if the COM1 address is set to 3F8h~3FFh (conventional address for COM1) in system configuration.

There is further an auto detect function on the existence of a healthy UPS battery provided. This capability supports the Posiflex software installed in the preloaded operating system of Windows to enable or disable the UPS function automatically as long as it is initialized. The system detects and registers the existence of UPS battery after the system is switched on (Note: Connect/Disconnect UPS battery only when AC source removed). The system then responds to 2 query command strings. These 2 query command strings have to be sent as usual to COM1 under protocol: 9600 bps, parity none, 8 data bits, 1 stop bit. The system changes DCD status of COM1 as response.

"Check Auto-Detect Capability" command string is <1B> <00> <00> <00> <00> <18> <00> <00> in hexadecimal format. And the DCD of COM1 will be set for a period of time if the UPS unit supports Auto-detect capability.

"Battery Health Check" command string is <1B> <00> <00> <00> <00> <18> <18> <18> in hexadecimal format. And the DCD of COM1 will be set for a period of time if the UPS unit supports Auto-detect capability and the battery was detected as workable.

The period of time in these 2 responses starts after several machine cycles since receival of the query command and stops about 15 seconds later or whenever another query command is received. It is advisable to take a check on the response between 1 to 10 seconds after sending the query command and to send the other query command only after first response checked to avoid any possible ambiguity.

All the above mentioned functions are included in the "Posiflex Power Switch Manager" within the preloaded OS for user's convenience as described in "POSIFLEX TOOLS" later in this chapter.

AUTOMATIC POWER ON CONTROL

When the system is turned off after a successful boot up, the preset automatic power on functions if set as below will keep monitoring for the preset conditions and turn on the system when the preset conditions are met.

Please note that if the system is improperly turned off before a complete boot up procedure, the mentioned preset power on control functions will be disabled until next turning off after a complete boot up.

ALARM CLOCK WAKE UP

To utilize Alarm Clock Wake Up function, the user should enter the CMOS setup by pressing “Del” key at system boot up, choose for “Power Management Setup” and make the “Resume by Alarm” enabled and set the alarm to required time. Save the configuration and exit the CMOS setup program. The Preset Power On Control will then be ready.

MODEM RING UP

To utilize Modem Ring Up function, the user should enter the CMOS setup by pressing “Del” key at system boot up, choose for “Power Management Setup” and make the “Power On by Ring” enabled and connect the RS232 modem to any COM port. Save the configuration and exit the CMOS setup program. The Preset Power On Control will then be ready.

LAN WAKE UP

The LAN Wake Up function is supported under pure DOS environment only. It is not applicable to Windows DOS or Command Prompt Mode. To utilize Modem Ring Up function, the user should enter the CMOS setup by pressing “Del” key at system boot up, choose for “Power Management Setup” and make the “Wake-Up by PCI card” enabled. Save the configuration and exit the CMOS setup program. In this application, there needs to be 1 master machine and 1 target machine connected together through LAN. Both machines should be using same brand of LAN chip.

First the MAC address of the target machine should be checked. Please obtain the file “RSET8168.EXE” from Posiflex Product Information CD in subfolders like

\Drivers\KS661X\LAN_xxx and execute this file on the target machine. Select the item "View Current Configuration" in the Main Menu and write down the 6 2-digit numbers of the item "Ethernet Address:" for the network technician. Then the target machine should be powered off in a normal way with AC power supply and LAN connections.

Now the networking technician at the master machine can execute the same file "RSET8168.EXE" and select "Run Diagnostics" → "Run Power Management Test" → "Master Machine" → "Magic Packet". There will popup a dialog box. Enter the registered 6 2-digit Ethernet Address of the target machine and press "Enter" then the target machine of that Ethernet Address will be automatically powered up.

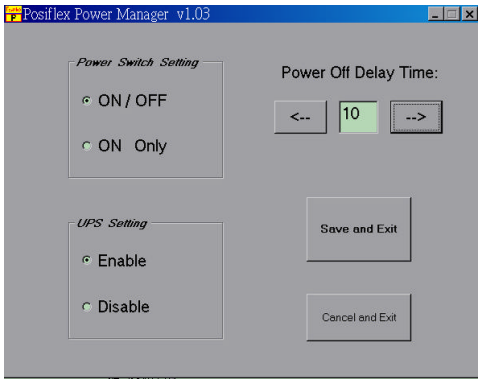
FINGERPRINT SENSOR

When the system is delivered with SD-400T with fingerprint sensor and when the system has preloaded OS, the driver for the optical fingerprint sensor will be installed for separated demonstration on use of the fingerprint sensor. For software developers to use all functions of the sensor in their AP, proper SDK (software development kits) should be purchased from the sensor module supplier. The supplier for the sensor module used in SD-400T is DigitalPersona, Inc. and the module used is "U.are.U 4000B". It is advisable to visit their web site:
http://www.digitalpersona.com/developers/products.php

POSIFLEX TOOLS

In the preinstalled OS there will be a program group named “POSIFLEX Tools” for specific Posiflex device(s) installed.

POSIFLEX POWER SWITCH MANAGER



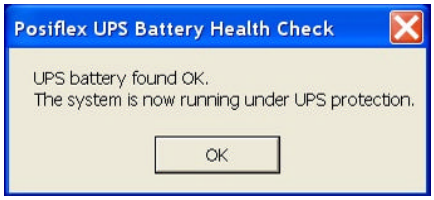
The power switch manager determines the UPS control and function of the hardware power switch that is in side cover of the machine.

When the manager program is installed, there is an item 

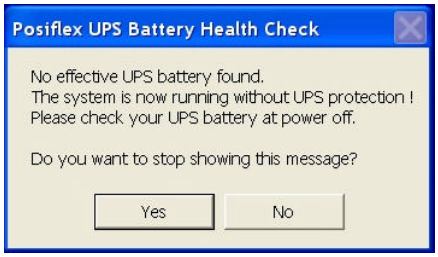
in the system’s “Start” menu. The window display of this program is like the picture at the right.

This utility may be not installed in the OS for consideration of user’s application program compatibility. In this case please find the folder \drivers\PSW_xxx in the preloaded OS and execute SETUP.EXE and then restart the system to install it.

UPS BATTERY HEALTH CHECK FUNCTION



The Posiflex Power Switch Manager” automatically watches out the UPS status and takes some appropriate for the user when installed. However, it notifies the user about the vital status change of UPS function with a pop up window like the upper right picture when a newly replaced battery is found (Please note that only change the UPS battery when the system is powered off and with AC power cord disconnected!) or like the lower left picture when the UPS battery is found ineffective or not exist.



POWER SWITCH SETTING

The function of the power switch that is at side of the machine can be defined here. When "ON/OFF" function for this switch is selected, the power switch turns the system on when the system is off and turns the system off when the system is on. When "ON Only" function for this switch is selected, the power switch always turns the system **on** regardless of the status whether the system is On or Off. In this way, accidental switching off of the system is avoided. However, the software power off function 

or the Windows system shut down function has to be engaged to turn off the system in such approach.

UPS SETTING

When the system is equipped with a workable UPS battery as judged by the system firmware with the UPS health check function described in page 5-7, "Enable" will be automatically selected in this field to make operations running smoothly during **intermittent** power failure. When there is no UPS battery installed (or when the installed UPS battery is detected as "dead"), "Disable" will be automatically selected in this field to make sure that the system immediately turns off and rejects any possible noise or the consequent RTC CMOS setup data loss when power fails.

POWER OFF DELAY TIME

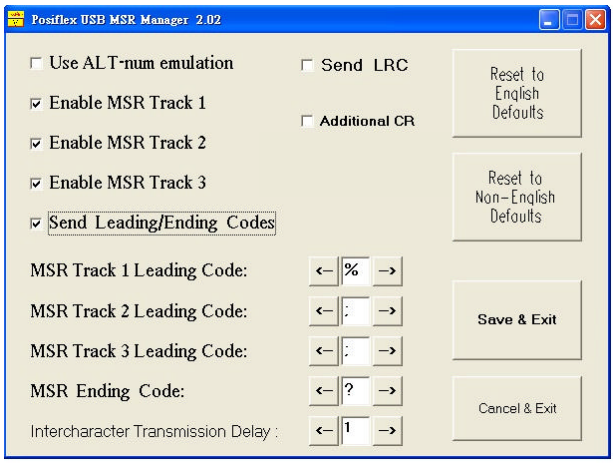
This function defines the time delay between the software power off command 

in the "Start" menu and the actual power off. The count is programmable between 1 and 255, and each count represents 1 sec delay. This software power off command is an irrevocable process just like pulling the plug after a certain delay to allow the shutdown procedures. So special care must be exercised in using this software power off command. However, this command must be engaged to turn the power off when the power switch is set to "ON Only".

POSIFLEX USB MSR MANAGER

For systems with USB MSR on SD-400T kit, the USB MSR manager helps defining several characteristics in output format control for reading the magnetic stripe card.

Please find the subfolder \Drivers\SD Series\USBMSR_xxx in Posiflex product information CD and execute the "SETUP.EXE" to install the USB MSR Manager. The screen shot of the program is similar to the picture at right as below. The program will be in "Posiflex Posiflex USB MSR Manager Tools" and in "StartUp" there will be Posiflex USB MSR Init



USE ALT-NUM EMULATION

This function is required for systems using a different keyboard layout of the alphabetical part from the US keyboard when track 1 of the MSR is enabled. This function will have no influence if the MSR uses only track 2 and/or track 3. The reason is that the data of the MSR are sent to the host as if they were keyed in from a keyboard. When the alphabetical data in track 1 of the MSR is read, the data goes to the keyboard controller and the system keyboard controller interprets it according to the keyboard layout set for the country. This could cause some confusion among some European countries (For example, the location for "A" in US keyboard is that for "Q" in a French keyboard. The location for "Z" in US keyboard is that for "Y" in a German keyboard.) One way to deal with such problem is to use the "Alt-num" approach. This means that, for example, when "A" is read, the scan codes for pressing and holding

"Alt" key while pressing "6" and "5" keys of the numerical keypad consecutively are sent to the keyboard controller. Therefore, the data will not be misinterpreted regardless of the keyboard layout.

ENABLE MSR TRACK 1

A tick in the check box enables the reading of track 1 data if the reader head for track 1 exists. Without this check, the data of track 1 on the MSR will be ignored.

ENABLE MSR TRACK 2

A tick in the check box enables the reading of track 2 data if the reader head for track 2 exists. Without this check, the data of track 2 on the MSR will be ignored.

ENABLE MSR TRACK 3

A tick in the check box enables the reading of track 3 data if the reader head for track 3 exists. Without this check, the data of track 3 on the MSR will be ignored.

MSR WILL SEND THE LEADING CODE

In data encoding of the magnetic stripes, each tracks are separated with each start/end sentinels. However the user may decide whether to send codes of/for these sentinels or not depending on the requirement of the application software.

MSR TRACK 1 LEADING CODE

MSR TRACK 2 LEADING CODE

MSR TRACK 3 LEADING CODE

MSR ENDING CODE

Once the codes for the sentinels of each tracks are defined to be sent to the system, the leading codes for each start sentinels and the ending code for the common end sentinel can be selected from a table of displayable characters with ASCII code from 20h to 7Eh. Pressing each left/right button selects each code. The default track 1 leading code is "%"; the default track 2 and track 3 leading code is ";"; the default ending code is "?".

TRANSMISSION INTERCHARACTER DELAY

Usually, the processing algorithm and the keyboard data input buffer in an operating system are arranged in such a way that the system resources are preserved as much as possible while data input from the keyboard port presents no problem. However, as we know that the amount of data read from one single swipe of MSR can be very much larger than any possibly fastest keyboard entry in same duration. Some operating system may be unable to handle such a bunch of data in so short time. Therefore, a so-called intercharacter delay is introduced to allow the system to digest the input data. When data read from the MSR is marching to the system, a programmable time delay is inserted between any two characters. The value to define this intercharacter delay ranges from 0 to 32. The correspondent delay time ranges from 2 ms to 66 ms.

SEND LRC

This item is available in USB MSR manager only. When the check box is ticked, the MSR sends LRC to the host as part of data for Application Program to double check.

ADDITIONAL CR

This item is available in USB MSR manager only. When the check box is ticked, the MSR sends a carriage return signal to the host at end of each track data after the ending code for Application Program to separate each field.

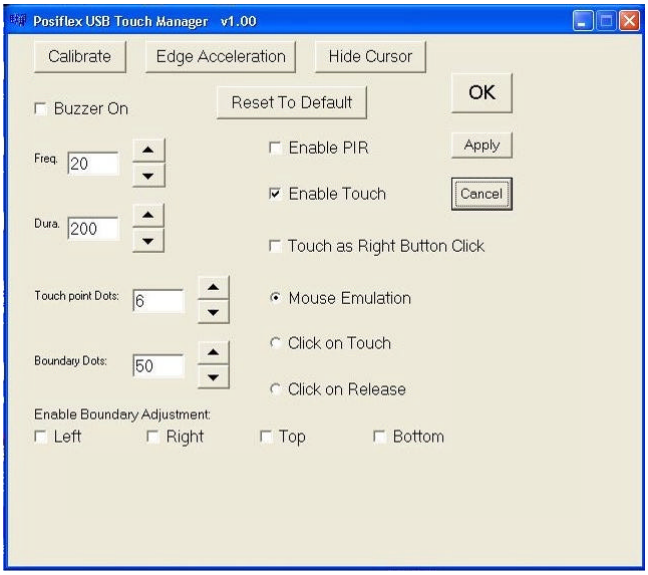
RESET TO ENGLISH DEFAULTS

RESET TO NON-ENGLISH DEFAULTS

These two options provide users to reset all the MSR maneuver functions to the proper defaults according to the system language the user uses. This consideration involves mostly of the Alt-Num emulation and the intercharacter delay.

POSIFLEX USB TOUCH MANAGER

When the touch control panel installed is the resistive type panel and the touch control interface used is USB interface, the "Posiflex USB Touch Manager" will be installed with the preloaded OS and there will be 4 utilities in the "Posiflex USB Touch Tools" program group with "Posiflex USB Touch Manager" being the main program.



POSIFLEX USB TOUCH MANAGER

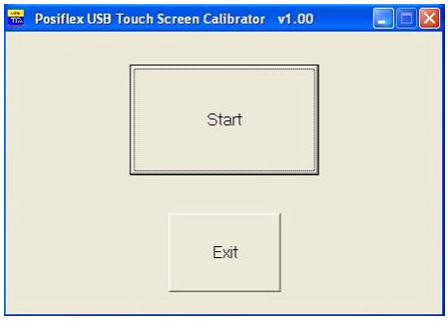
Most items in this utility should be easily understandable to average user. Followings are just some reminders on some items.

- **Calibrate** – This button engages the "Posiflex USB Touch Calibrator".
- **Edge Acceleration** – This function engages the "Posiflex USB Touch Edge Acceleration Tool" and helps to find the hidden taskbar or thin scroll bar through touch.
- **Hide Cursor / Show Cursor** – This button hides or shows the mouse cursor on screen display. Please never hide cursor before the touch is enabled and calibrated.
- **Buzz On** – This check box together with the 2 list buttons below it determines the frequency and duration of the internal buzzer beep as response to touch on touch panel.
- **Touch Point Dots** – This list button selects the size of touch point on touch panel. A too small touch size makes the mouse cursor jumpy or even bouncing. A too large touch size results in unsatisfactory touch accuracy.
- **Reset To Default** – This button resets all touch parameters.

- **Enable PIR** – This check box is not applicable to the monitor. Please keep it unchecked.
- **Enable Touch** – This check box must be checked to have the touch panel working.
- **Touch as Right Button Click** – This check box defines each touch on touch panel as clicking the right button of mouse at that point. When it is unchecked, each touch will work as clicking the left button of mouse. (Ref. to the right hand version of mouse)
- **Mouse Emulation/Click on Touch/Click on Release** – Only one of the three radio buttons can be selected. The mouse emulation refers to the drag and drop function.
- **OK** – This button accepts all parameters set and closes the utility window.
- **Apply** – This button accepts all parameters set and remains in the utility window.
- **Cancel** – This button discards all changes to the parameters and closes the utility window.

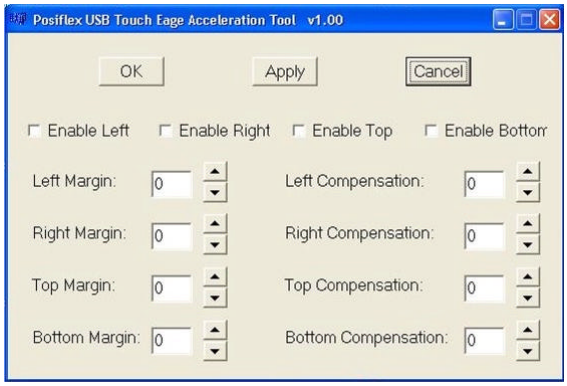
USB TOUCH CALIBRATOR

This program helps re-calibrating the touch position with the USB mouse emulation. Please touch the 3 or 9 calibration boxes and a confirmation box that appear sequentially.



USB TOUCH EDGE ACCELERATION TOOL

This program helps to find the hidden taskbar or thin scroll bar through touch.



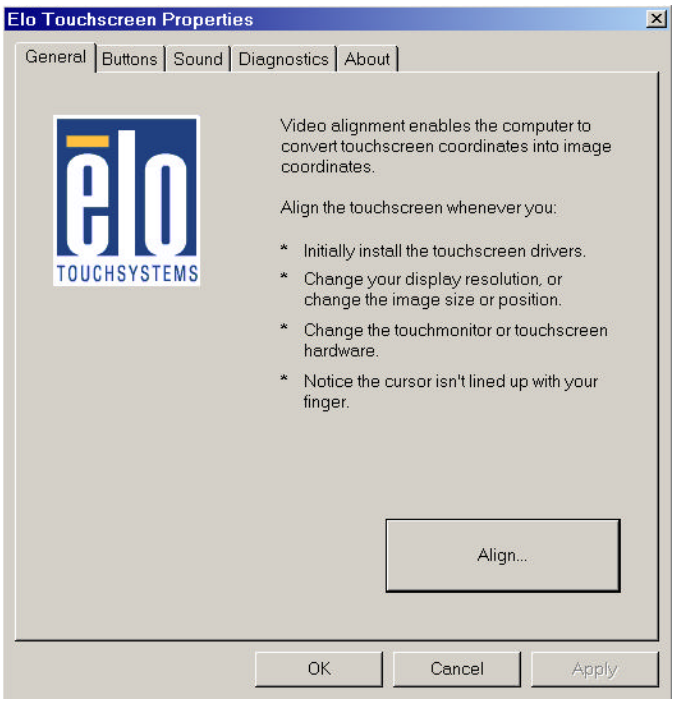
- **Enable ...** – Each check box determines whether or not to engage edge acceleration against which edge of screen.
- **Margin** – This list button selects the range to engage edge acceleration toward the edge before the edge is reached.
- **Compensation** – This list button selects the distance to advance the mouse toward edge from touch point.

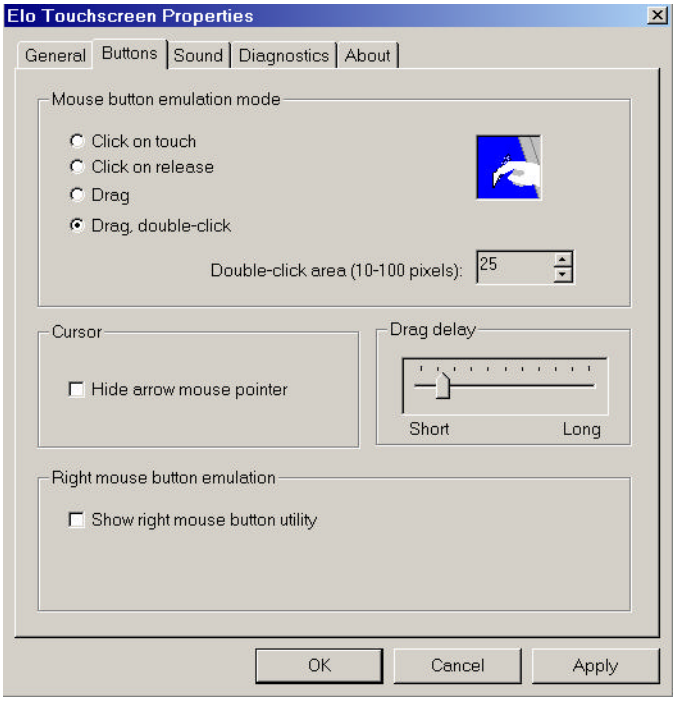
USB TOUCH RIGHT BUTTON TOOL

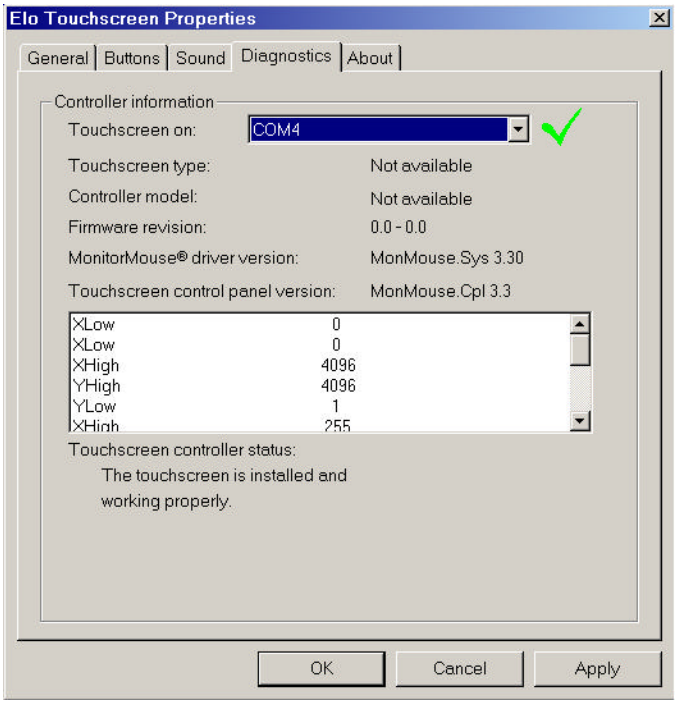
This tool differs slightly from the “Touch as Right Button Click” check box in the USB touch manager. When executed, there will be a small window of “One Shot Right Button” appearing on desktop. Any touch on the panel right after touching this small window will work like clicking the right button of mouse at that point. However, the next touch will resume the left button of mouse unless the small window is touched again.

RS232 TOUCH DRIVER

The touch control driver for the IR type touch panel used in this product series utilizing RS232 interface can also be used for the normal optional resistive type touch panel of this product series. Please find the subfolder \Drivers\KS631X\TOUCH\IR in the Posiflex Product Information CD and study the "readme" file before executing the "setup" program should there be any need for a driver re-installation. Make sure you select "COM2" for the port of the touch driver in the process. All control parameters of this driver can be reviewed through an item "Elo Touchscreen" in the "Control Panel" after driver installation. Some sample screen shots of this driver are exhibited to the right of this section for reference purpose. Please note that these may change without notice at any time.







The "Align" button starts a calibration process that requires the user to click on 3 marks appeared consecutively. The size selected for "Double-click area" sets the precision definition of the simulated mouse click for the screen touch. When the value is set too large, the mouse pointer would appear to be off from the point touched. However, when this value is set too small, the double clicking would become very difficult because the 2 touches would be considered at 2 different spots. The port selection for "Touchscreen on:" must be set to "COM5" for the touch panel over the LCD panel in this product series.

In case a Posiflex touch monitor is connected to the VGA port for 2nd display, the touch function of the second display monitor has to be connected to one of the ports from COM2 to COM4. Please re-install the touch driver with a selection for multiple monitors in the process this time. Set COM5 for the touch screen on the machine and set the COM port actually connected for the 2nd display for the touch function over it.

SOFTWARE COMMAND INDEX

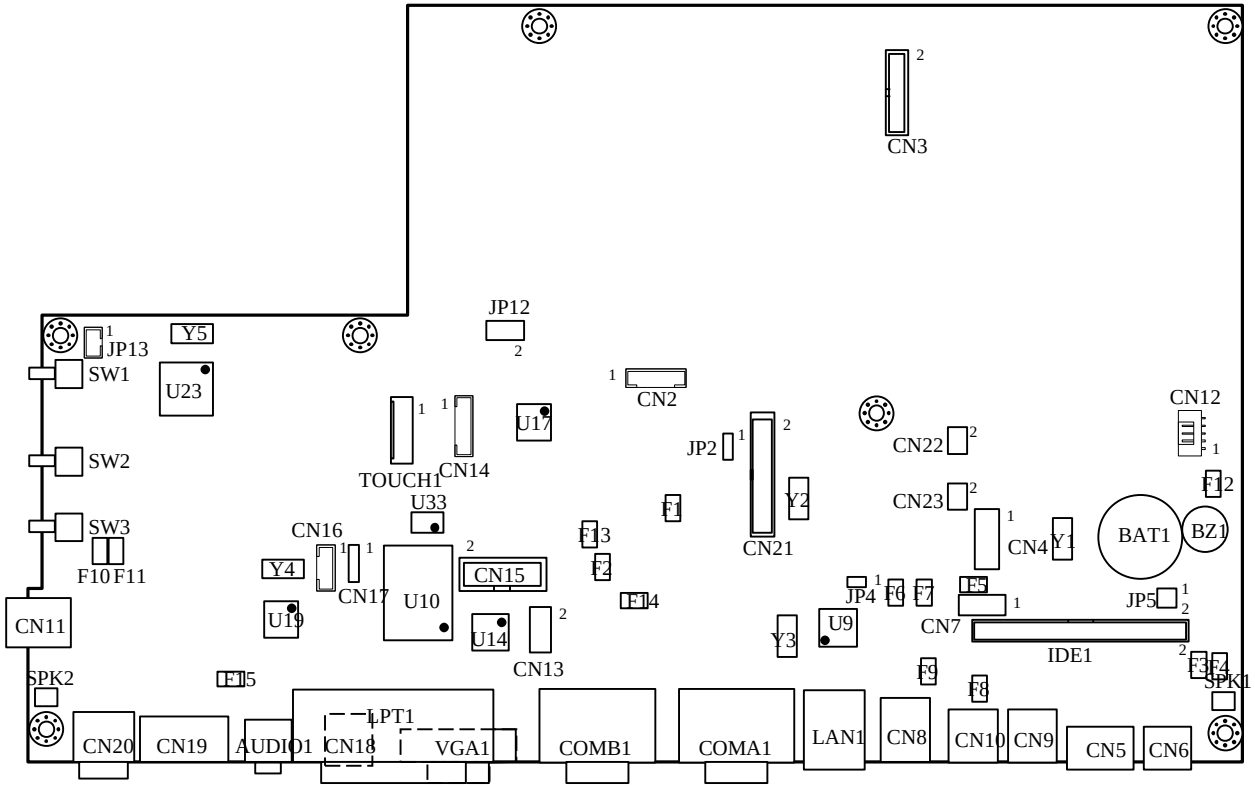
Following table is a collection of software command applicable to the Jiva KS series for a quick look up. The page number listed could deviate from the display of this file if different viewer is utilized.

Usage of the Command	Page	Chapter	Section / Subsection
Open CR1	5-2	Application Guide	Cash Drawer
Open CR2	5-2	Application Guide	Cash Drawer
Drawer open sense	5-2	Application Guide	Cash Drawer
Main switch ON only	5-4	Application Guide	Power On/Off Control / External Power Switch
Main switch ON/OFF	5-4	Application Guide	Power On/Off Control / External Power Switch
Software power off	5-4	Application Guide	Power On/Off Control / Software Switch Off
Check autodetect capability	5-7	Application Guide	UPS Status Detect Functions
Battery health check	5-7	Application Guide	UPS Status Detect Functions
UPS status check	6-6	Hardware Details	Software Awareness of UPS Status

HARDWARE DETAILS

MAIN BOARD (KS-6615A)

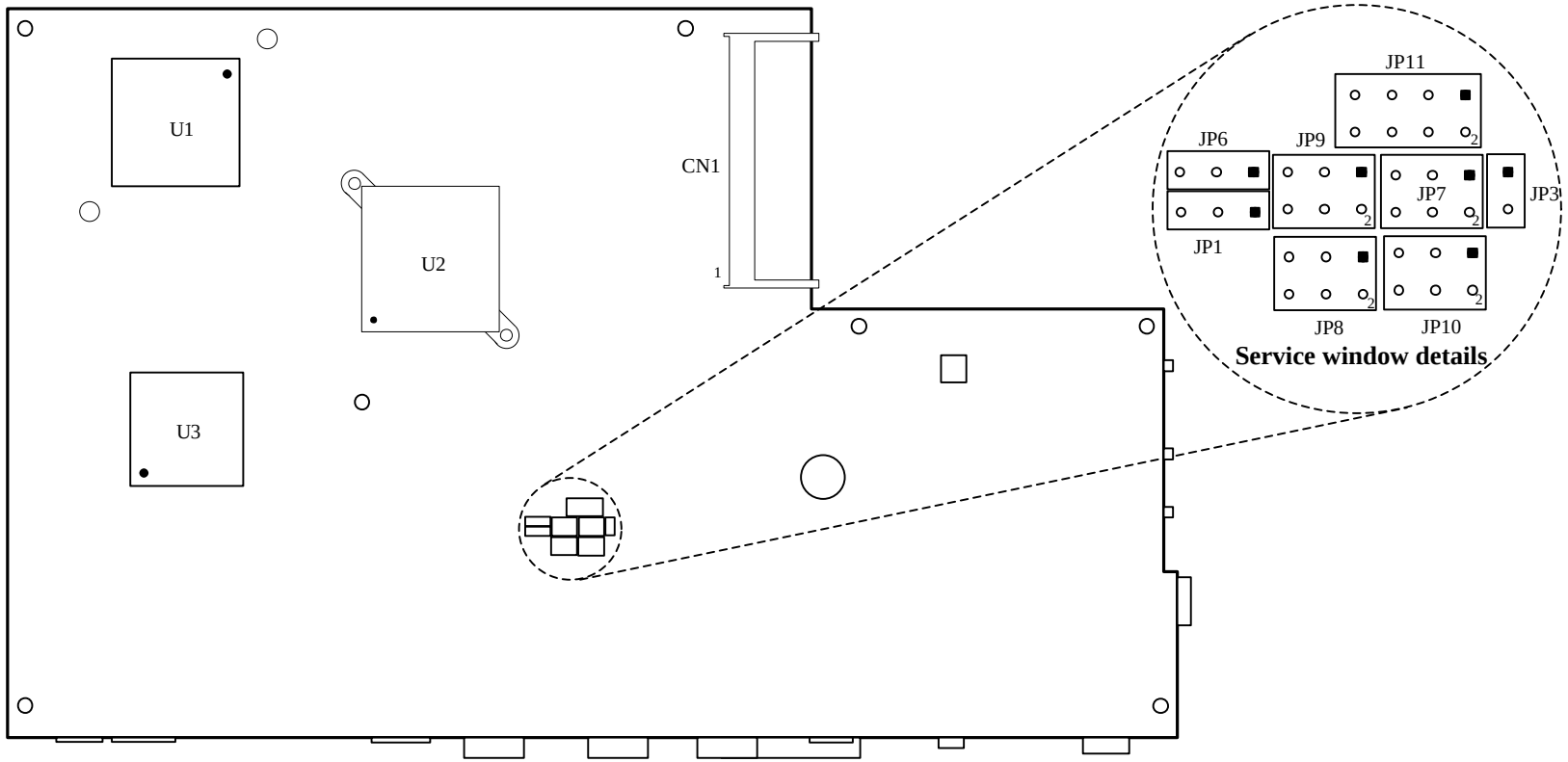
COMPONENT SIDE



Notation Remarks:

1. A small black block ▪ in the drawing for a jumper or an IC is used to indicate the position of pin number 1.
2. A small number “1” or “2” marked near a corner of a jumper is used to indicate the position of pin number 1 or 2 for identification of all pins.

SOLDER SIDE



Notation Remarks:

1. A small black block ■ in the drawing for a jumper or an IC is used to indicate the position of pin number 1.
2. A small number “1” or “2” marked near a corner of a jumper is used to indicate the position of pin number 1 or 2 for identification of all pins.

JUMPERS AND CONNECTORS

ON COMPONENT SIDE

Position	Part Spec	Usage
AUDIO1	F 3.5 M+S jack	Mic. in / line out ports
BAT1	Round socket	CMOS battery socket
BZ1	Buzzer	Reserved
CN2	HDR 1x7 w/H	Inverter connector
CN3	HDR 2x10 w/H	LVDS connector for 15” LCD panel
CN4	SATA jack	HDD connector for HDD in main unit
CN5	SATA jack rt	HDD connector for HDD in base
CN6	HDR 1x4 rt w/H	HDD power connector for HDD in base
CN7	HDR 1x4 w/H	HDD power connector for HDD in main unit
CN8	2 x USB jack	USB2, USB3 ports
CN9	USB jack	USB0 port
CN10	USB jack	USB1 port
CN11	2 x USB jack	USB4, USB5 ports
CN12	HDR 1x5 rt w/H	Proprietary side mount kit connector
CN13	HDR 2x5	Deleted
CN14	HDR 1x7 w/L	Reserved
CN15	HDR 2x6 w/H	RS232 IR touch connector
CN16	HDR 1x5 w/H	LED light module connector
CN17	HDR 1x4	Reserved
CN18	RJ11 jack	CR port
CN19	CONN 1x4	UPS battery connector
CN20	DIN 4 pin Jack	Power connector
CN21	HDR 2x15 w/H	SDVO connector for 17” LCD panel
CN22	WFR 2x3	SDVO adaptor support
CN23	WFR 2x3	SDVO adaptor support
COMA1	2 x DB9M jack	COM1/2 port
COMB1	2 x DB9M jack	COM3/4 port
F1	Poly fuse	Fuse
F2	Poly fuse	Fuse
F3	Poly fuse	Fuse
F4	Poly fuse	Fuse
F5	Poly fuse	Fuse
F6	SMD fuse	Fuse
F7	SMD fuse	Fuse

F8	SMD fuse	Fuse
F9	SMD fuse	Fuse
F10	SMD fuse	Fuse
F11	SMD fuse	Fuse
F12	SMD fuse	Fuse
F13	SMD fuse	Fuse
F14	Poly fuse	Reserved
F15	Poly fuse	Fuse
IDE1	HDR 2x25 w/H	For CF adaptor (option)
JP2	HDR 1x3	LCD panel power select
JP4	HDR 1x2	LAN chip control
JP5	HDR 2x2	Reserved
JP12	HDR 2x4	IR/PS2 touch card support
JP13	HDR 1x3 w/H	Reserved
LAN1	RJ45 jack w/LED	LAN port with indicators
LPT1	DB25 F	LPT port
SPK1	HDR 2x1 w/H	Internal speaker
SPK2	HDR 2x1 w/H	Internal speaker
SW1	Tactile switch	Power switch
SW2	Tactile switch	LCD brightness + switch
SW3	Tactile switch	LCD brightness - switch
TOUCH1	HDR 1x5 w/L	USB touch panel connector
U9	IC	LAN chip
U10	IC	LPCIO 1
U14	IC	LPCIO 2
U17	IC	USB touch controller
U19	IC	Audio CODEC
U23	IC	Power manager
U33	IC	SPI BIOS
VGA1	DB3x5 F	VGA port
Y1	XTAL	Crystal
Y2	XTAL	Crystal
Y3	XTAL	Crysta
Y4	XTAL	Reserved
Y5	XTAL	Crystal

ON SOLDER SIDE

Position	Part Spec	Usage
CN1	DDR2 SODIMM socket	DDR2 SDRAM SODIMM
JP1	HDR 1x3	CMOS data control
JP3	HDR 1x2	VGA +12V DC supply select
JP6	HDR 1x3	UPS status detect
JP7	HDR 2x3	COM1/COM2 5V DC supply select
JP8	HDR 2x3	Reserved
JP9	HDR 2x3	COM3/COM4 5V DC supply select
JP10	HDR 2x3	Reserved
JP11	HDR 2x4	USB touch setup
U1	FCPGA479M IC	CPU
U2	microFCBGA IC	NB chip
U3	microFCBGA IC	SB chip

JUMPER SETTINGS

The "★" marks in the following tables denote the factory default settings.

CMOS DATA CONTROL

STATUS OF JP1 ON SOLDER SIDE	CMOS DATA CONTROL
1-2 short	Normal operation ★
2-3 short	Clear CMOS data

PANEL POWER SELECT

STATUS OF JP2	PANEL POWER
1 – 2 Short	3.3 V DC for 15" LCD ★
2 – 3 Short	5 V DC for 17" LCD

VGA PORT +12 V DC SUPPLY SELECT

STATUS OF JP3 ON SOLDER SIDE	PIN 9 STATUS
1 – 2 short	VGA port Pin9 supplies + 12 V DC
1 - 2 open	VGA port Pin9 not connected ★

Please always remove the DC supply to that VGA port whenever it is no longer used to support specific Posiflex monitors.

LAN CHIP CONTROL ENABLE/DISABLE

STATUS OF JP4	LAN CHIP CONTROL
Short	LAN function enabled ★
Open	LAN function disabled

SOFTWARE AWARENESS OF UPS STATUS

STATUS OF JP6 ON SOLDER SIDE	UPS STATUS
1 – 2 short	Normal (DCD signal)
2 - 3 short	Detect UPS status ★

The UPS status is used to inform the software the power source the system is operating on (AC adaptor or UPS battery). The default of this jumper is set to detect the UPS status to enable the software detection on existence of AC power. When the DCD bit of COM1 is set, the AC power is present. The user has to change this jumper if he/she wants to detect the standard DCD signal on COM1.

COM1/COM2 +5V DC SUPPLY SELECT

STATUS OF JP7 ON SOLDER SIDE	PIN 9 STATUS
1 – 3 short	COM1 Pin9 connected to 5 V DC
3 - 5 short	COM1 Pin9 connected as RI ★
2 – 4 short	COM2 Pin9 connected to 5 V DC
4 - 6 short	COM2 Pin9 connected as RI ★

Please always remove the DC supply to that COM port before disabling a COM port.

COM3/COM4 +5V DC SUPPLY SELECT

STATUS OF JP9 ON SOLDER SIDE	PIN 9 STATUS
1 – 3 short	COM3 Pin9 connected to 5 V DC
3 - 5 short	COM3 Pin9 connected as RI ★
2 – 4 short	COM4 Pin9 connected to 5 V DC
4 - 6 short	COM4 Pin9 connected as RI ★

Please always remove the DC supply to that COM port before disabling a COM port.

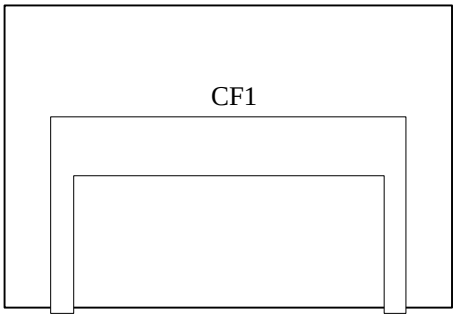
USB TOUCH SETUP

STATUS OF JP11 ON SOLDER SIDE	APPLICABLE OS
1-2 short, 5-6 open	Windows (Win98, Win2000, WinXP) ★
1-2 open, 5-6 open	Linux or WinCE
1-2 short, 5-6 short	MS-DOS
3-4 short	Touch panel type E or OEM ★
3-4 open	Touch panel type F

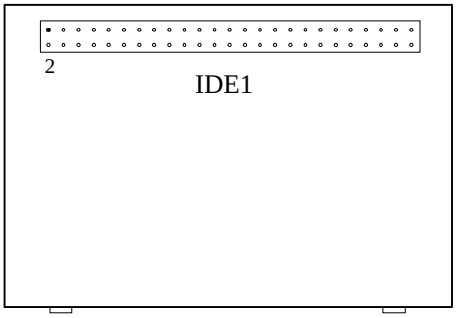
Please note for MS-DOS application of the USB touch, the “USB Mouse Support” in BIOS must be “Enabled”.

CF ADAPTOR CARD (KS602A)

COMPONENT SIDE



SOLDER SIDE



CONNECTORS

ON COMPONENT SIDE

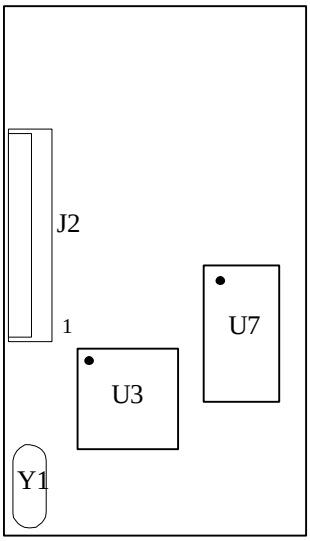
Position	Part Spec	Usage
CF1	CF card slot	To accept CF memory card

ON SOLDER SIDE

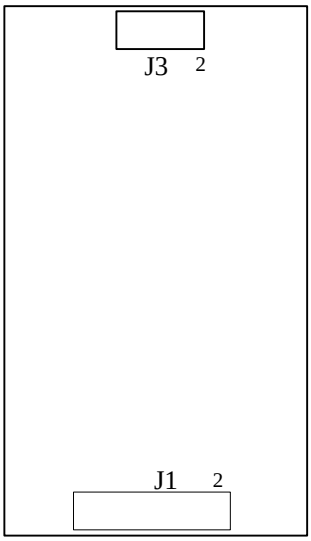
Position	Part Spec	Usage
IDE1	Connector 2x25	To connector IDE1 on main board

RS232 TOUCH CONTROL BOARD (KS604A)

COMPONENT SIDE



SOLDER SIDE



CONNECTORS

ON COMPONENT SIDE

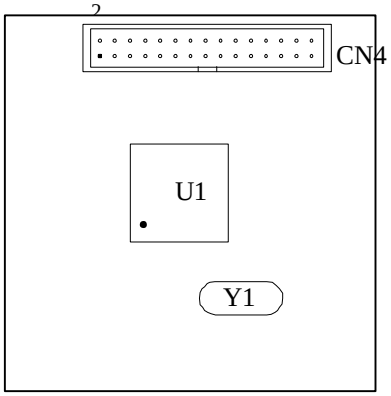
Position	Part Spec	Usage
J2	FPC connector	To IR touch control panel

ON SOLDER SIDE

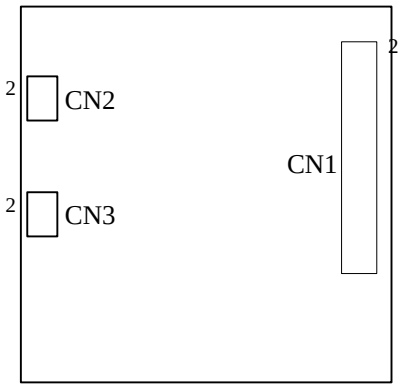
Position	Part Spec	Usage
J1	Connector 2x8	To RS232 IR touch connector CN15 on main board
J3	Connector 2x4	To JP12 on main board

SDVO ADAPTOR CARD (KS608A)

COMPONENT SIDE



SOLDER SIDE



CONNECTORS

ON COMPONENT SIDE

Position	Part Spec	Usage
CN4	HDR 2x15 w/H	To dual channel LVDS 17” LCD panel

ON SOLDER SIDE

Position	Part Spec	Usage
CN1	Connector 2x15	To SDVO connector CN21 on main board
CN2	Connector 2x3	To SDVO adaptor support CN22 on main board
CN3	Connector 2x3	To SDVO adaptor support CN23 on main board

SERVICE AND SPARE PARTS

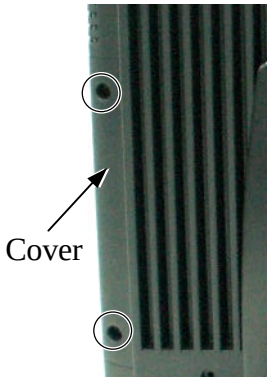
SERVICE GUIDE

SIDE MOUNT UPGRADE KIT

The available side mount upgrade kit includes SD400T up to the time this manual created. The possible configurations of function kits are tabulated as below:

Function Kits Included	**SD400T**
MSR (USB interface)	V
F/P sensor (Optical type)	V

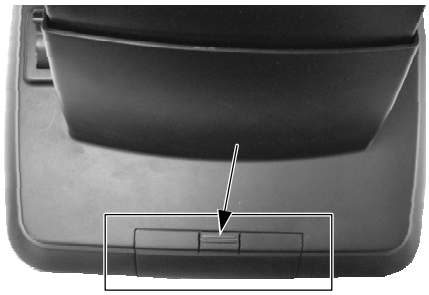
If the side mount unit is ordered together with the Jiva KS system, the SD side mount unit will be attached on the Jiva KS system when delivered. However, if the Jiva KS is delivered without such a unit and you want to install the side mount unit by yourself, you may find two screws holding a cover on back of the right side of the main unit as indicated in the right picture. Remove the 2 screws to open the cover,



connect the cable found inside the cover to the side mount unit as circled in the left picture then align the side mount unit on the right edge of the main unit and fasten the two screws with washer.

BASE MOUNT UPGRADE KIT

This upgrade is applicable to Jiva KS system with base stand in desktop application. On rear edge of the stand assembly, there is a rear connect cover as marked in the right picture. This area is designed for installing a 12" 2nd LCD display panel option LM-6201 or a 15" 2nd LCD display monitor LM-6301 or a low profile LCD customer display option PD-305 or a LCD customer pole display option PD-306 or PD-306U or PD-7622 or a VFD customer pole display option PD-2501 or PD-2602 after this cover removed. Press the arrowed center part of the cover to remove it for the installation. Should there be difficulty removing it, please check if there is any locking screw nearby the center part of the cover.



Please note that for KS-6617, there could be much more restrictions to the tilt angle range for the main unit due to larger dimensions of the LCD panel if base mount upgrade kit mounted. Investigation for the acceptability of such kind of restrictions must be taken before decision to install a base mount upgrade kit to these models.

Fit the joint base of PD-2501, PD-2602, PD-305, PD-306/U, PD-7622 or LM-6201 or the interface bracket of LM-6301 to the rear connect cover opening. Fit 2 screws with washers to hold the joint tight as in the picture at right. Then insert the cable into the base mount device cable groove and cable holder on bottom plate and connect to the main unit through the base. For low profile customer display PD-305, the display unit is right on joint base without the pole. Remember to enable the +5 V DC supply in the COM port of the main unit for PD-2501, PD-2602, PD-305, PD-306 or PD-7622 or the +12 V DC in VGA port for LM-6201 or LM-6301. PD-306U will be powered through the USB port without specific setting.

The family of rear mount upgrade kits may keep growing with time, the installation principle will remain as to install the kit base or the connecting bracket to

this opening and have the interface cable passing the cable exit of the system base into the system I/O area.

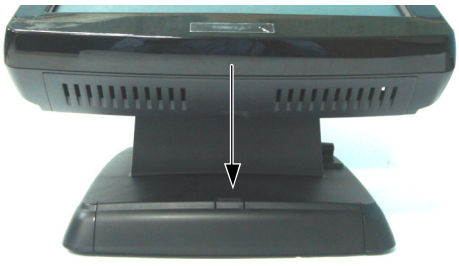
BASE INSTALLED DEVICES

The devices installable to Gen 5 slim base include: a 2.5” system HDD and an UPS battery. The UPS battery should be installed per instructions in User’s Manual while the HDD must be accessed only by qualified technicians per below information. Otherwise warranty terminates.

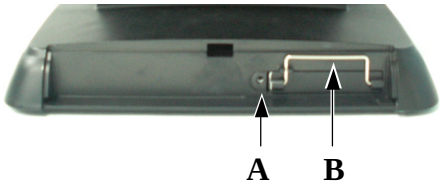
However, please note that the never ending quest for excellence of the manufacturer may result in discrepancy from the above statement and sample pictures yet the basic concepts remain.

REPLACE BASE INSTALLED 2.5” HDD

CAUTION! Every detail described below must be strictly observed. Otherwise damage may result as personal responsibility of the one who takes the operation.

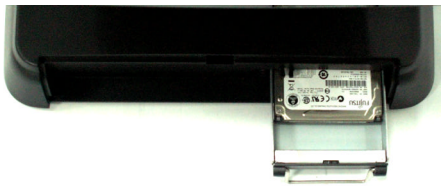


Press down the arrowed center part of the front cover in the base to remove the front cover as indicated in the left picture. Should there be difficulty removing it, please check if there is any locking screw nearby the center part of the cover.



Remove the HDD bracket fixing screw marked as “A” in the right picture then pull on the lever “B” to remove the HDD bracket from base. Missing the step A will result in damages. Remove the 4 screws on bottom side of the HDD bracket releases HDD from its bracket.

However, for reinstalling a new HDD into its bracket please refer to the left picture and note that the bracket itself is designed to accommodate both IDE and SATA interface 2.5” HDD therefore correct set of screw holes on the bracket must be checked to fix the SATA HDD into the bracket. Damage will definitely occur if wrong set of screw holes is chosen. Please choose the holes marked with “S” or “SATA”. Slide the HDD bracket with HDD into the base in orientation shown at right. Push the lever back in place and fix back the HDD bracket fixing screw.

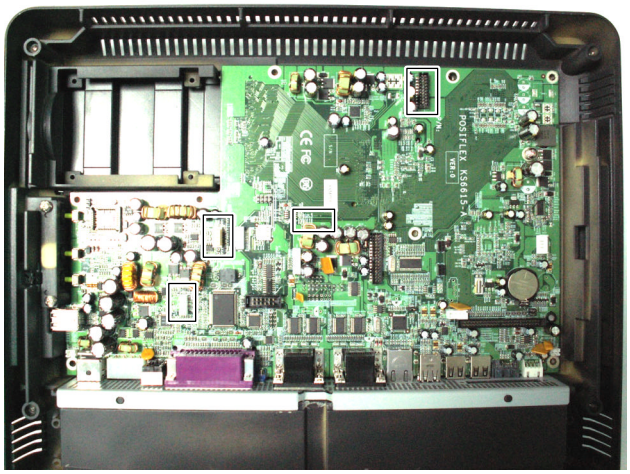


2.5” HDD & SDRAM IN MAIN UNIT

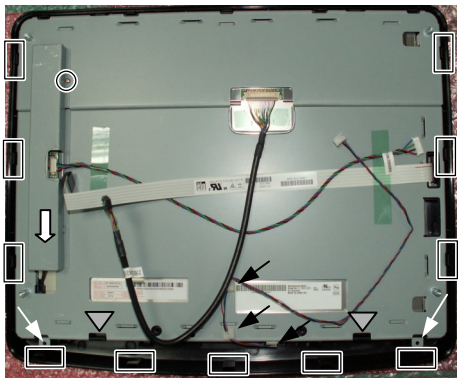
As indicated in the right picture, near the top right corner of back of main unit there is a 2.5” HDD storage room. Remove the 2 circled screws in the picture, there is the SDRAM and the 2.5” HDD if installed.

OPEN THE MAIN UNIT

Release the 4 circled screws marked in the picture. Keeping the front bezel and back cover together when carefully turning the main unit to face up (LCD side up). Gently lift the top edge of the front bezel. Disconnect the cables (incl. LCD cable, inverter cable, touch cable, LED cable) from the main board inside back cover before removing the front bezel assembly away. Locations of connectors for these cables mentioned above are marked in the picture below



SEPARATE FRONT BEZEL ASSEMBLY



Please refer to the picture above for a view of inside of front bezel assembly as detached from the main board of main unit. The touch panel is clipped to the LCD panel and then clipped to the plastic bezel.

To access the inverter for the LCD panel please remove the circled screw and slide the inverter bracket down in the direction of the white arrow in the above pictures.

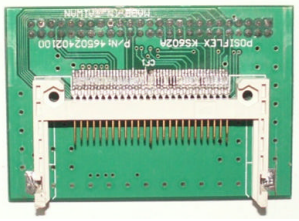
Before further disassembly, please release the LED module cable from the 3 cable clips and watch not to apply any excessive stress to this cable throughout whole operation.

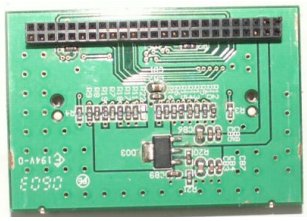
To remove the LCD + touch panel from the front bezel, remove the 2 white arrowed screws at the lower corners and push the 11 rectangular marked clips on front bezel outward (away from center) to release the panel from bezel and lift the panel at bottom edge. To further detach the touch panel from LCD panel, push the 2 triangular

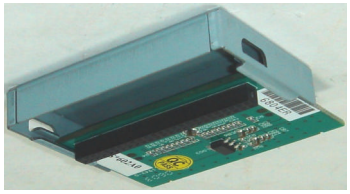
marked clips inward and lift the LCD panel at bottom edge while allowing the touch cable to come out of the slot in LCD panel bracket.

CF READER SLOT ADAPTOR CARD

For models with CF memory card reader slot option, there is a CF reader slot adaptor card on the main board over connector IDE1. The pictures of the top and bottom side of the CF reader slot adaptor board are at the right. To install this option in a



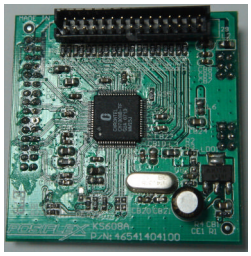


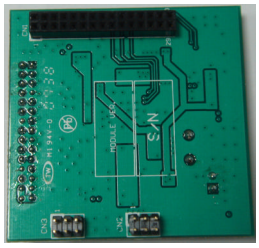


system delivered without it, please first install the adaptor card into its bracket as the left bottom view picture. Break open the semi-cut CF slot window on metal I/O plate. Insert the female IDE1 connector to the male IDE1 connector on main board. Please notice that there will be vacancies at both end of the connector matching. Then screw the bracket as the right picture to the I/O plate.

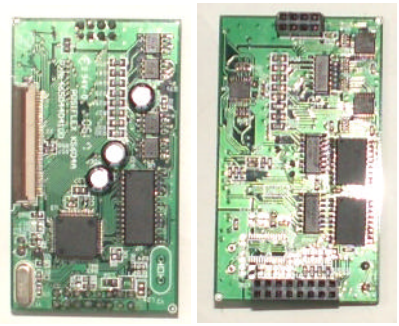
17” LCD PANEL MODEL

For models with a 17” LCD panel in the Jiva KS-66 series, there is a SDVO adaptor board on the system main board over connectors CN21, CN22 and CN23. The pictures of the top and bottom side of the SDVO adaptor board are at the right. In 15” model, the SDVO board does not exist and the LCD cable is connected to CN3. In 17” model the LCD cable is connected to CN4 on top side of this SDVO board.

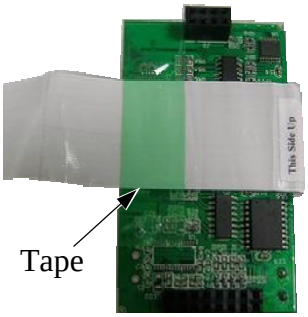




IR TOUCH PANEL MODEL

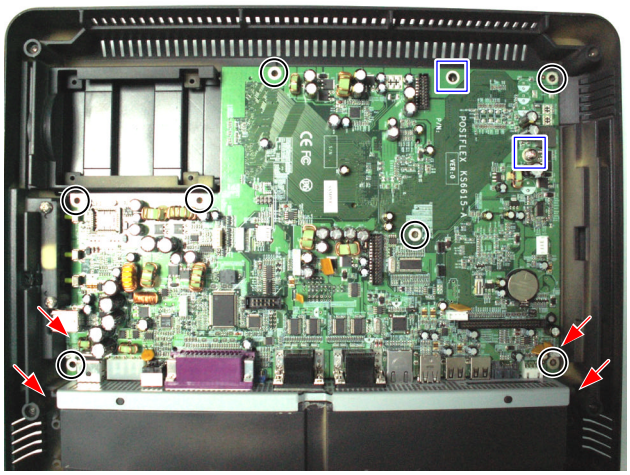


For models with an IR (InfraRed) touch panel option, there is a RS232 touch control board on the system main board over connectors CN15 and JP12. The pictures of the top and bottom side of the RS232 touch control board are at the right. Please note that the resistive type touch cable is connected to the USB touch control connector TOUCH1 near the area for the RS232 touch control board but for IR touch panel the touch cable is connected to J2 on top side of this RS232 touch control board. To help the FPC touch cable well connected to J2 throughout the assembly process, it is advisable to insert the FPC cable, route it through the bottom side of the control board and stick it with a tape as in the left picture then insert the control board to main board as in the lower right picture.



REPLACE MAINBOARD

After removal of front bezel assembly and all optional adaptor boards, please disconnect the internal speaker cables and retract it back to speaker areas through the passages in back cover near lower corners as indicated by arrows in right picture. Please then remove the 2 square marked spring bosses and 7 screws in circles to release main board with metal I/O plate from back cover.



Please pay particular attention that the Aluminum die cast back cover plays vital role in system thermal balance and its interior contour is tailored to each component applied on the main board. Therefore, when replacing the main board only the **exactly same version/grade/type** should be used. Careless replacement of main board with deviation as minor as upgraded CPU may result in thermal/mechanical/electrical damage.

To reassemble the whole system back, please just do the counter actions in reverse order.

SPARE PARTS LIST

The column "Pos." in the list below refers basically to the ID numbers indicated in the Assembly Drawing. If this column is not available, it refers to a packaging item. The column "S." indicates the alternative selections available for that position. Please be noted that the information here is for reference only. It may be revised without notice as time goes on.

Pos.	S.	Part Number	Description
101	1	16500603113	Posiflex Logo Plate for KS Series, Black
102	1	36566003003	15" Front Bezel Assembly w/o Resistive Touch Panel for KS Series, Black
	2	16500312013	15" Front Bezel for IR, Black
103	1	36534004003	15" Resistive Touch Panel Assembly w/ LED Light Module and Plastic Bracket, Black (OEM Touch)
	2	36504011003	15" IR Touch Panel Assembly w/ LED Light Module and Plastic Bracket
104	1	10524030102	Binding Head Self-Tapping Screw ∮ 3-10L
105	1	36524007000	15" LCD Panel Assembly (w/Metal Holder) (XG03 V.1)
106	1	21863045320	LCD Display Cable for LVDS 15" AU (XG03)
107	1	16500101010	15" Inverter Bracket for KS Series
108	1	10501026042	Pan Head Screw M2.6-4L
109	1	10684038062	Binding Head Screw #6-32NC-6L
110	1	36564001000	KS-6615 M/B w/CPU Celeron M-1.5 GHz & w/ IO Connector Plate

Pos.	S.	Part Number	Description
(110)	2	36564002000	KS-6615 M/B w/CPU Celeron M-1.0 GHZ & w/ IO Connector Plate
111	1	36566004000	Shoulder Screw Spring Set for KS-6615 w/CPU Celeron M-1.5 GHZ Only (2 Pcs Each)
112	1	36404004000	CF Card Upgrade Kit w/ Bracket & Adapter Board
113	1	10241300011	Push Latch, Black
114	1	16560301013	Left Side Cover, Black
115	1	16560303017	Power & Brightness Buttons for KS-6615, Blue
116	1	16561601013	2.5” HDD Cover for KS-6615 Main Unit, Black
117	1	10684038103	Binding Head Screw #6/32-10L
118	1	10166024017	Silicon Rubber Gray for DRAM 60*24*1mm
119	1	36566001003	KS-6615 Back Cover Assembly for CPU Celeron-M 1.0 GHz (incl. All Subordinate Covers & Heat Sink), Black
	2	36566002003	KS-6615 Back Cover Assembly for CPU Celeron-M 1.5 GHz (incl. All Subordinate Covers & Heat Sink), Black
120	1	16500104010	Service Window Cover for KS-62/63/66/73
121	1	16560302013	Right Side Cover, Black
122	1	36566004003	GEN 5 TH Slim Base Stand Assembly for KS-6615 (incl. Stopper, w/ Front & Rear Cover & HDD Bracket), Black
123	1	16030300013	Rear Cover for GEN 5TH Slim Base, Black

Pos.	S.	Part Number	Description
124	1	10558038082	Pan Head Screw #6/32-8L
125	1	16030302013	Front Cover for GEN 5TH Slim Base, Black
126	1	46033602100	SATA HDD Adapter Board for GEN 5TH Slim Base
127	1	36564003000	Cable Set for 2.5” SATA HDD
128	1	21955004000	2.5” SATA HDD 40G
	2	36564004000	2.5” SATA HDD Kit w/40G HDD & HDD Tray Cover, w/o HDD Cable
129	1	16560300013	Cable Cover for KS-6615, Black
130	1	21883508203	Speaker w/Box 2W/8O
131	1	10684038082	Binding Head Screw # 6-32NC-8L
132	1	21863261500	USB I/O Cable for SD-400T
133	2	21862060000	Inverter Cable for 15” LCD
134	1	10501030042	Pan Head Screw M3-4L
135	1	21815156209	LCD Inverter Module for CCFL 15” Panel (XG03 V.1)
	1	46504604100	IR Control Board
	1	21864053400	FPC Cable 50 Pin for IR Touch Panel (from Control Board to Touch Panel)

Pos.	S.	Part Number	Description
	1	21901302032	Li-Battery CR2032
	1	10245109091	Cable Clip for LED Module Cable
	1	21972080125	DC Power Adaptor 12V/80W for KS-6615 Series Slim Base (180cm)
	1	21868100510	Power Cord for Australia for KS Series
	2	21868200500	Power Cord for Europe for KS Series
	3	21868300500	Power Cord for Japan for KS Series
	4	21868400501	Power Cord for S.A. for KS Series
	5	21868500500	Power Cord for U.K. for KS Series
	6	21868600500	Power Cord for U.S.A. for KS Series
	7	21868800500	Power Cord for India for KS Series
	8	21868900500	Power Cord for Argentina for KS Series
	1	16500510110	KS-6615/7315 Packing Carton for GEN 5 Slim Base
	2	16500511110	KS-6615/7315 Packing Carton for GEN 4 Universal Base
	1	16560540010	PE Foam for KS-6615/7315 Per Pair
	1	10335534550	EPE Bag 450*530*0.5MM for Front Panel

1	CPEBAG64*70	PE Bag 64*70CM
1	16560900010	KS-6615/6617/7315/7317 User’s Manual

ASSEMBLY DRAWING